



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/840,011

04/20/2001

Christopher Barron

133031-0003

3074

24267

7590

01/14/2004

CESARI AND MCKENNA, LLP  
88 BLACK FALCON AVENUE  
BOSTON, MA 02210

EXAMINER

LUK, LAWRENCE W

ART UNIT

PAPER NUMBER

2838

DATE MAILED: 01/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/840,011

Applicant(s)

BARRON, CHRISTOPHER

Examiner

Lawrence Luk

Art Unit

2838

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 29-34 is/are allowed.
- 6) ☒ Claim(s) 1-19, 22 and 26-28 is/are rejected.
- 7) ☒ Claim(s) 20-25 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5,6 6) ☐ Other:

## DETAILED ACTION

### *Claim Rejections - 35 USC § 102*

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1, 2, 6-10, 12, 13, 15, 16 and 26-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Mann et al. (4,082,097).

In regard to claims 1, 12, 13 and 15, Mann et al. shows each of cell (battery pack) bridge connected around a first cell, including a bypass resistor in series with a switch (refer to Fig.1 and col.5, lines 3-6); and a cell monitor/regulator having an input connected across the first cell for measuring a charge of the first cell, wherein the cell monitor/regulator closes the switch when a charge of the first cell equals a maximum value (refer to col.1 68 to col.2, lines 6).

In regard to claims 2 and 16, Mann et al. shows the cell monitor/regulator includes a comparator that compares a relative voltage potential across the first cell with respect to a reference voltage potential (refer to col.9, lines 28-35).

In regard to claim 6, Mann et al. shows battery pack terminals located at respective opposing ends of the series-arranged cells, and a charging circuit, the terminals being connected to respective opposing leads of a charging circuit so as to charge the cells (refer to Fig.1 and col.4, lines 57-65).

In regard to claim 7, Mann et al. shows the charging circuit includes a sense resistor located in line with one of the terminals, a voltage sensor that measures an overall voltage across the sense resistor and a regulator that determines a maximum current delivered to the battery pack by the charging circuit in response to a measured value the overall voltage (refer to col.5, lines 25-29).

In regard to claim 8, Mann et al. shows the charging circuit and the battery pack each receive current from a transcutaneous energy transmission (TET) module implanted in a body and the battery pack is adapted to be implanted in the body (refer to Abstract).

In regard to claims 9 and 26, Mann et al. shows the battery pack is operatively connected to a life-saving system implanted in the body (refer to col.1, lines 5-10).

In regard to claim 10, Mann et al. shows the life-saving system includes a heart treatment device (refer to col.1, lines 55-62).

In regard to claim 27, Mann et al. shows the cells in a body and providing an external power source that transmits charging current to the cells (refer to col.4, lines 34-40).

In regard to claim 28, Mann et al. shows the step of providing the external power source includes transmitting energy through a skin layer of the body using induction (refer to col.3, lines 61-65).

### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 3-5 and 17-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mann et al. (4,082,097) in combination with Bourbeau (5,666,040).

In regard to claims 3 and 17, Mann et al. discloses the elements as claimed, except for the cell monitor/regulator includes a voltage divider connected across the first cell and having an output connected to a first input of the comparator.

Bourbeau shows the cell monitor/regulator includes a voltage divider connected across the first cell and having an output connected to a first input of the comparator, and a reference voltage source that outputs the voltage potential to a second input of the comparator (refer to col.6, lines 32-35).

It would have been obvious to person having ordinary skill in the art at the time of the invention was made to modify the device of Manne et al. to include the cell monitor/regulator includes a voltage divider connected across the first cell and having an output connected to a first input of the comparator as taught by Bourbeau for the purpose of properly charging the battery does not exceed a maximum current level.

In regard to claims 4, 18 and 19, Mann et al. shows an output of the comparator is connected to a lead of the switch, the switch being constructed and arranged so that the switch closes when the comparator measures a voltage at the second input greater than a voltage at the first input (refer to col.9, lines 28-44).

In regard to claim 5, Bourbeau shows the switch comprises a transistor that is variably saturated in response to an output of the comparator (refer to col.8, lines 37-40).

Art Unit: 2838

5. Claims 11, 14 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mann et al. (4,082,097) in combination with Ostergaard et al. (5,994,878).

In regard to claims 11, 14 and 22, Mann et al. discloses the elements as claimed, except for the cells comprise lithium ion-type cells.

Ostergaard et al. shows the cells comprise lithium ion-type cells (refer to col. 1, lines 25-26).

It would have been obvious to person having ordinary skill in the art at the time of the invention was made to modify the device of Manne et al. to include the cells comprise lithium ion-type cells as taught by Ostergaard et al. for the purpose of improving the charging battery.

***Allowable Subject Matter***

6. Claims 29-34 are allowed

Claim 29 is allowable. The reasons for allowance is that the prior art of record fails to disclose or reasonably suggest a plurality of cells, each of the cells being interconnected in a series line between 3 a pair of opposing battery pack-end terminals adapted to receive a charge current on the 4 series line; s a respective cell monitor/regulator connected across each of the cells for measur6 ing a charge of the each of the cells; and a respective shunt bridge connected across each of the cells including a switch 8 that selectively closes the shunt bridge to direct the charge current around the cell through 9 the series line in response to a measurement of the charge of each of the cells by the to monitor/regulator. It is these features found in the claim, as they are claimed in

Art Unit: 2838

the combination, which has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior art.

Claims 30-32 are allowed due to their dependency on claim 29.

Claim 33 is allowable. The reasons for allowance is that the prior art of record fails to disclose or reasonably suggest an implanted TET module for receiving energy through the skin and transmitting electricity derived from the energy to a life-saving device; and an implanted rechargeable battery pack including a battery pack having a plurality of series-arranged cells, having a bridge connected around a first cell, including a bypass resistor in series with a switch, and a cell monitor/regulator having an input connected across the first cell for measuring a charge of the first cell, wherein the cell monitor/regulator closes the switch when a charge of the first cell equals a maximum value. It is these features found in the claim, as they are claimed in the combination, which has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior art.

Claim 34 is allowed due to its dependency on claim 33.

7. Claims 20-25 are objected to as being dependent upon a rejected base claim. The prior art of record fails to teach or reasonably suggest that: Claims 20, a battery pack terminals at respective opposing ends of the series of the plurality of the cells, and connecting respective opposing leads of a charging circuit to the terminals at predetermined times so as to charge the plurality of cells. Claims 21, 24 and 25 are dependent on claim 20. Claim 23, the monitoring each of the cells based upon an input connected across each of the cells for measuring a charge of the each of the cells respectively, and providing a

Art Unit: 2838

bridge around the each of the cells, the bridge including a respective bypass resistor and a respective switch and closing the respective switch when the charge of the each of the cells equals a maximum value so as to shunt charge current around the each of the cells through the respective bypass resistor. Claims 20-25 would be allowable if rewritten in independent from including all of the limitations of the base claim.

*Conclusion*

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lawrence Luk whose telephone number is (703)305-0617. The examiner can normally be reached on 7 a.m. to 5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Sherry can be reached on (703) 308-1680. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-7724 for regular communications and (703)305-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-1782.

LWL  
December 31, 2003

*Lawrence Luk*  
*examiner*  
*12/31/03*